

Lab Concepts: Color, Pigments, Chlorophyll, Chromatography

Observations:

- Leaves gradually change to other colors each fall
- Colors are different wavelengths of light
- Leaves are green because they have chlorophyll
- Chlorophyll reflects green light(about 500 nm)
- Chlorophyll is a pigment.
- Different colors are reflected by different pigments
- Pigments are molecules with different sizes and shapes
- Chromatography is a technique which separates molecules by size.

Question: Do green leaves have other pigments in them?

Hypothesis:

Experiment: Use Paper Chromatography to separate pigments in a leaf solution.

Is this an controlled experiment or discovery?

Method:

- ✓ Safety check: Goggles required, set up chromatography in hood.

Use one of the leaf solutions to dot the paper strips at least 10 times, allow drop to dry each time.

Set up chromatography as modeled by instructor.

Data:

Identify and measure from solvent line the different pigment lines

[illegible]

Lab Concepts: Color, Pigments, Chlorophyll, Chromatography

Analysis:

- Calculate Rf values: Distance traveled by pigment/total solvent distance
- Compare results to other groups
- Average Data

Conclusion/Discussion:

Construct a bulleted outline for your rough draft, include the following information:

Bullet the following information:

- Purpose/hypothesis
- Concepts which explain the hypothesis
- Results which do or don't support the hypothesis
- Discussion of the significance of the results to the concepts behind the hypothesis
- Discussion of technique validity(what went wrong/could be improved)
- Discussion of results validity(what went wrong/could be improved)
- Description of other questions that this technique could be used to investigate